



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,787	05/20/2002	Claudia Wiegand	MERCK 2341	5718

23599 7590 06/04/2003

MILLEN, WHITE, ZELANO & BRANIGAN, P.C.
2200 CLARENDON BLVD.
SUITE 1400
ARLINGTON, VA 22201

EXAMINER

OLSEN, ALLAN W

ART UNIT	PAPER NUMBER
----------	--------------

1763

DATE MAILED: 06/04/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/031,787

Applicant(s)

WIEGAND ET AL.

Examiner

Allan W. Olsen

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5 and 7-14 is/are pending in the application.
- 4a) Of the above claim(s) 8-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3-11-03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION***Election/Restrictions***

Newly submitted method claims 9- 13 are dependent upon amended claim 8 which is newly presented as a method claim. These method claims are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 1, 3-5, 7 and 14 are related to claims 8-13 as product and process of use. Groups of claims so characterized can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, (1) the process (claims 8-13) for using the product (claims 1, 3-5, 7 and 14) as claimed can be practiced with another materially different product because there are many etchants systems (i.e. products) that can selectively etch doped silicate layers. While only one of two criteria stated above need be met in order to justify a restriction between the groups, the examiner notes that (2) the product as claimed in claims 1, 3-5, 7 and 14 can be used in a materially different process, for example, the etchant could be used to etch a doped silicate layer wherein the doped silicate is the only material that the etchant contacts and therefore, the silicate etching is not a selective etching process. Or the etchant (i.e. the product) could be used under a set of operating conditions such that a doped silicate layer and a layer of a different material would have a 1:1 etching rate ratio.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 8-13 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3-5, 7 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is directed to a composition which is claimed with open claim language ("An etching solution comprising..."). An organic solvent is specifically recited as one component of the composition. The organic solvent is further defined as being one member of the group consisting essentially of ethylene glycol, propylene glycol, ethanol and glycerol. From among the vast number of known organic compounds that are compounds that would be characterized by some skilled artisans as a "solvent" while at the same time another group of skilled artisans would consider this same compound as a solvent. Herein lies the problem, because one skilled artisan (from the non-solvent camp) would, under the leeway of the claim's open language, think it permissible to add this compound to the composition whereas the skilled artisan who considers this same compound to be an organic solvent, would consider the closed language portion of the claim to forbid the inclusion of this compound. Whether or not a compound is excluded by the closed language of claim 1 depends upon whether an individual considers the compound in question to be an organic solvent or not. The examiner acknowledges that the phrase "organic solvent" is extremely common, and that there are some compounds that are indisputably considered to be organic solvents. Nevertheless, the specification does not define the phrase organic solvent in such a manner that there would be agreement all on the characterization of each of the many millions of organic compounds. As such the metes and bounds of the claims are not distinctly defined. Claims 3-5, 7 and 14 rejected because, by virtue of dependency, they have inherited the indefiniteness of claim 1.

Art Unit: 1763

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US Patent 4,269,654 issued to Deckert et al. (hereinafter, Deckert)

Deckert teaches preparing an etching solution by adding 100 mL of concentrated HF (49 % HF by weight) to glycerol to make 1 liter of solution. Deckert teaches that this solution is 3M in HF. Therefore, the 1 L of prepared solution contains 3 moles of HF, which is about 60 grams of HF. Because a 49% HF solution has a density of 1.19 g/mL, the 100 mL of concentrated HF contributes 119 grams to the total mass of the solution. The balance of the solution is about 900 mL of glycerol which, given its density of 1.26 g/mL, would have a mass of about 1134 grams. These numbers provide for an HF and H₂O concentration of about 5 weight %.

This rejection is presented in the alternative 102/103 format because the 5 % value for the HF and H₂O weight percentages is the endpoint of the instantly claimed ranges and the above calculation is based upon the assumption that a combination of 100 mL of concentrated HF and 900 mL of glycerol, will yield a solution with a total volume of 1000 mL, however, this is not necessarily the case. It is also noted that slightly different results are obtained when using a slightly different tact to determining the HF and H₂O weight percentages (e.g. using the information that 119 g of 49% HF by weight corresponds to 58.31 g HF and 60.69 g H₂O).

It would have been obvious to one skilled in the art to make the etchant composition of Deckert with the instantly claimed 5 % by weight concentration for each of HF and H₂O because it appears as though these weight percentages correspond to or very nearly correspond to the concentrations taught by Deckert.

Art Unit: 1763

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 4, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deckert.

The above noted teachings of Deckert are herein relied upon. It is also noted that Deckert teaches preparing an etching solution in which glycerol is replaced by ethylene glycol.

Deckert does not teach mixing ethylene glycol and glycerol with a ratio of 1:5 to 5:1. Deckert does not teach using high purity components in the etching mixture.

It would have been obvious for one skilled in the art to make an etching solution of Deckert by using glycerol and ethylene glycol with a ratio of 5:1 for the following reasons. Deckert teaches that glycerol and ethylene glycol are functional equivalents in the HF etching solution. Therefore, as each component can be used independently of the other, it would be obvious when using a mixture of these two equivalent components to first select a 1:1 mixing ratio.

It would be obvious to use high purity components so that the etching solution is not a source of contamination.

Art Unit: 1763

Allowable Subject Matter

Claim 14 would be allowable if rewritten to overcome the rejection under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

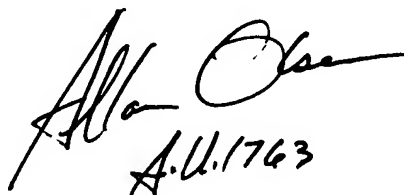
Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allan Olsen whose telephone number is 703-306-9075. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Mills, can be reached on 703-308-1633. The general fax numbers for TC1700 are 703-872-9310 (non-after finals) and 703-872-9311(after-final). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Allan Olsen, Ph.D.
May 29, 2003



A.U.1763